



## Pericardial/Myocardial Disease

### DIAGNOSIS OF TUBERCULOUS PERICARDIAL EFFUSION BY T CELL-BASED ASSAYS ON PERIPHERAL BLOOD AND PERICARDIAL FLUID MONONUCLEAR CELLS

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**Background:** The role of the M. tuberculosis-specific enzyme-linked immunosorbent spot (ELISPOT) assay for diagnosis of tuberculous pericardial effusion (TPE) has not been evaluated.

**Methods:** We enrolled consecutive 38 patients with pericardial effusion (PE). ELISPOT were performed on blood and PE fluid using M. tuberculosis-specific antigens (ESAT-6 and CFP-10), and adenosine deaminase (ADA) and interferon gamma (INT- $\gamma$ ) concentrations in PE were measured. Two and 9 patients were diagnosed as definite and probable TPE, respectively.

**Results:** ROC curve analyses showed that areas under curves for diagnosing TPE were 0.748 and 0.691 for  $\Delta$ (ESAT-6 - negative control (NC)) and  $\Delta$ (CFP-10 - NC) obtained from blood, while they were 0.946, 0.744, 0.854 and 0.838 for ADA, INT- $\gamma$ ,  $\Delta$ (ESAT-6 - NC) and  $\Delta$ (CFP-10 - NC) derived from the PE fluid, respectively. Sensitivities and specificities were 91% and 82% by ADA level ( $\geq 40$  U/L), 62% and 100% by INT- $\gamma$  ( $\geq 200$  pg/L), 90% and 85% by  $\Delta$ (ESAT-6 - NC) ( $\geq 49$ ), and 90% and 73% by  $\Delta$ (CFP-10 - NC) ( $\geq 4$ ) from PE fluid, respectively. For diagnosing definite TPE, ROC curve analyses showed that areas under curves were 0.968, 0.946, 0.971, and 0.971 for ADA, INT- $\gamma$ ,  $\Delta$ (ESAT-6 - NC) and  $\Delta$ (CFP-10 - NC) from the PE fluid, respectively. In all patients with definite TPE, markedly increased number of sensitized T cells to both ESAT-6 and CFP-10 were presented in PE (Fig).

**Conclusions:** ELISPOT assay using PE fluid is a useful diagnostic method for TPE, and presents a peculiar dramatic result in definite TPE.

